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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/884,541 06/19/01 SOLLARS

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EXAMINER

PM82/0906

MILLIKEN & COMPANY
P.O. BOX 1926
SPARTANBURG SC 29304

ENGLISH, P
ART UNIT

PAPER NUMBER

3619
DATE MAILED:

09/06/01 *2*

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/884,541

Applicant(s)
Sollars, Jr.

Examiner
Peter English

Art Unit
3619



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-9 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on Jun 19, 2001 is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other: _____

Art Unit: 3619

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “porosity blocking coating” (claim 5) must be shown or the feature canceled from the claims. No new matter should be entered.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: “312”, shown in Fig. 8; “412”, shown in Fig. 9; and “512” and “514”, shown in Fig. 10. Correction is required.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “25”, mentioned at page 12, line 20. Correction is required.
4. Applicant is required to submit a proposed drawing correction in response to this Office action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of two parts:
 - a) A separate letter to the Draftsperson in accordance with MPEP 608.02(r); and
 - b) A print or pen-and-ink sketch showing changes in red ink in accordance with MPEP 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office action, and *may not be deferred*.

Art Unit: 3619

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The specification fails to state that “one of said woven-in joints [is] longer than the other woven-in joints and [forms] a closed end between said face portion and said rear portion...” (claim 1, lines 15-18). Correction is required.

6. The disclosure is objected to because of the following informalities: at page 7, lines 4-5, “of an airbag inflatable cushion 210” should be deleted. Note that reference number 210 does not appear in Fig. 3A. Appropriate correction is required.

Claim Objections

7. Claim 9 is objected to because of the following informalities: at line 1, “cushion” should be inserted after “airbag”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, at line 12, the phrase “at least a portion of said woven in joints” renders the claim indefinite because it is unclear what constitutes a “portion” of a plurality of joints. Does this mean a “portion” of each of the joints? Or does it refer to some, but not all, of the joints?

In claim 1, at lines 15-16, the recitation “at least one of said woven-in joints being longer than the other woven-in joints and forming a closed end...” renders the claim indefinite because it is unclear which of the woven in joints of the airbag cushion constitutes the “longer” joint. As shown in Figs. 1 and 2, the airbag cushion does not have one joint that is longer than all of the

Art Unit: 3619

other joints. Further, the phrase “at least one of said woven-in joints being longer than the other woven-in joints” is confusing since it suggests that more than one joint can be longer than all of the other joints. If one joint is longer than the other joints, how can a second joint also be longer than the other joints (including the first joint)?

In claim 1, at lines 18-19, the phrase “at least a portion of said flow barriers” renders the claim indefinite because it is unclear what constitutes a “portion” of a plurality of flow barriers. Does this mean a “portion” of each of the barriers? Or does it refer to some, but not all, of the barriers?

In claim 3, at line 1, the term “said box structures” lacks proper antecedent basis. Note that this term is introduced in claim 2.

In claim 8, at line 2, the reference to “an area of two layers of fabric” renders the claim indefinite because it is unclear what the relationship is between the “two layers of fabric” in claim 8 and the “first fabric layer” and “second fabric layer” in claim 1 (line 3). Is claim 8 introducing two new layers of fabric, or are the fabric layers of claim 8 the same as those in claim 1?

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haland et al. (GB 2,297,950) in view of Buchner et al. (US 3,792,873) and Thornton et al. (US 5,098,125).

Art Unit: 3619

Haland et al. discloses an air bag cushion comprising a woven fabric bag having a face portion formed by a first fabric layer, a rear portion formed by a second fabric layer, and woven in joints which define flow barriers between the first and second layers. The fabric layers are interwoven to form the woven in joints. See Figs. 1 and 6-8, and page 6, lines 4-15. As shown in Figs. 7 and 8, the fabric layers are not connected to one another between the joints. Because the woven in joints have both a longitudinal dimension and a lateral dimension (see Figs. 1 and 6-8), they are considered to extend in both the warp direction and the weft direction. As shown in Figs. 1 and 6, the woven in joints consist “essentially” of straight line segments. As shown in Fig. 6, the woven in joints along the top and bottom of the cushion are longer than the vertical woven in joints located within the perimeter of the cushion. These top and bottom woven in joints define closed ends of the cushion. The woven in joints are considered to be “box structures” and “multiple cornered”, as is broadly claimed, since these terms are not defined in the claims.

Haland et al. lacks fabric layers made of polyester or nylon yarns, and woven in joints separated by at least two yarns and no more than eight yarns. As shown in Fig. 3, Buchner et al. teaches an air bag cushion comprising a woven fabric bag 1 having a face portion formed by a first fabric layer 5a, a rear portion formed by a second fabric layer 5b, and woven in joints 6 which define flow barriers between the first and second layers 5a, 5b. As shown in Fig. 4, the first fabric layer 5a is defined by warp yarns 21 and weft yarns 24, and the second fabric layer 5b is defined by warp yarns 22 and weft yarns 25. The fabric layers 5a, 5b are interwoven to form the woven in joints 6 (see column 3, lines 36-55 and column 4, line 65 through column 5, line 14). As shown in Fig. 4, the woven in joints are separated by eight yarns. The fabric layers 5a, 5b are made of polyester or nylon (see column 5, lines 15-17). Thornton et al. also teaches an air bag cushion having interwoven fabric layers made of polyester or nylon yarn (see column 3, lines 49-50). The fabric layers are interwoven in such a way as to eliminate yarn floats (see column 4, lines 48-68). The cushion is woven on an “electronic or computer-controlled dobby or harness regulator” (see column 5, lines 9-12).

Art Unit: 3619

From these teachings of Buchner et al. and Thornton et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Haland et al. by: forming the fabric layers of polyester or nylon yarns because these materials provide the cushion with the required strength and durability; and by separating the woven in joints by at least two yarns and no more than eight yarns in order to provide the inflatable areas between the joints with a sufficient volume to protect an occupant, while minimizing the likelihood of joint failure.

With respect to claim 7, it would have been obvious to reduce the separation of the joints to no more than four yarns in order to reduce the size of the inflatable areas between the joints. Further, such a modification involving a mere change in size is generally recognized as being within the level of ordinary skill in the art.

With respect to claim 9, it would have been obvious to provide the airbag cushion with a rectangular shape in order to adapt the bag for use in a particular environment. Further, such a modification involving a mere change in shape is generally recognized as being within the level of ordinary skill in the art.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haland et al. in view of Buchner et al. and Thornton et al. as applied to claim 1 above, and further in view of Kitamura (US 5,336,538).

The Haland et al., Buchner et al. and Thornton et al. combination lacks a porosity blocking coating on the cushion. Kitamura teaches a woven fabric cushion 1 including a porosity blocking coating 2 (see column 4, lines 48-51). From this teaching of Kitamura, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Haland et al. by providing the cushion with a porosity blocking coating in order to prevent the cushion from deflating too rapidly when struck by a vehicle occupant. Further, such a coating can be used to prevent hot gases from exiting portions of the cushion which contact the occupant.

Art Unit: 3619

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Radke teaches an air bag with internal joints. Yamashita et al. and Graham et al. teach woven air bags.

13. All of the prior art of record in the parent application (09/213,568) has been considered by the examiner.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter English whose telephone number is (703) 308-1377. The examiner can normally be reached on Monday-Thursday from 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai, can be reached on (703) 308-2486.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:


Commissioner for Patents
Washington, DC 20231

or faxed to:

(703) 305-7687 (for informal or draft communications, please clearly label
"PROPOSED" or "DRAFT")

Hand delivered responses should be brought to the Group receptionist on the 7th Floor of Crystal Park 5, 2451 Crystal Drive, Arlington, Virginia.

pe
September 4, 2001


PETER C. ENGLISH
PRIMARY EXAMINER 9/4/01